

BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)

Amendment of Part 2 of the Commission's)
 Rules to Allocate the 455-456 MHz and)
 459-460 MHz Bands to the Mobile-Satellite)
 Service)

ET Docket No. 97-214

To: The Commission

**REPLY COMMENTS
 OF THE
 AMERICAN PETROLEUM INSTITUTE**

The American Petroleum Institute ("API"), by its attorneys and pursuant to Section 1.415 of the Rules and Regulations of the Federal Communications Commission ("Commission"), hereby respectfully submits these Reply Comments regarding Comments filed by other participants in response to the Notice of Proposed Rule Making ("Notice") released by the Commission on October 14, 1997 in the above-captioned proceeding.^{1/} In these Reply Comments, API reiterates its strong opposition to the proposed allocation of the 455-456 MHz and 459-460 MHz bands to the non-voice, non-geostationary mobile-satellite service ("NVNG MSS" or "Little LEOs"), particularly to the extent that this measure contemplates the shared use of the oil spill response channel centered at 459.000 MHz.

^{1/} 62 Fed. Reg. 58,932 (Oct. 31, 1997).

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I. REPLY COMMENTS

1. The vast majority of commenting parties in this proceeding, including API, expressed vigorous opposition to the Commission's proposed Little LEO allocation. API and Clean Sound Cooperative, Inc. ("Clean Sound") explained that the contemplated Little LEO operations would create an unacceptable risk of interference to oil spill containment and clean up communications on the 25 kHz channel centered at 459.000 MHz. Likewise, the Land Mobile Communications Council ("LMCC") urged the Commission to avoid shared use of the frequency 459.000 MHz due to the critical nature of the oil spill-related communications on this frequency.^{2/} Parties commenting on behalf of Broadcast Auxiliary Service licensees noted their serious concern that Little LEO transmissions in the 455-456 MHz band would disrupt broadcast operations in this spectrum.^{3/} Further, a number of entities that are licensed to operate in-flight telephone air-to-ground systems in the 459.665-459.985 MHz band asked the Commission to consider the negative impact that the proposed sharing of this spectrum could have on their operations.^{4/}

^{2/} Comments of LMCC at n.18.

^{3/} See, e.g., Comments of ABC, Inc.; the National Association of Broadcasters; the Society of Broadcast Engineers; and the University of California.

^{4/} See, e.g., Comments of Elite Aviation; Great Dane Power Equipment Inc.; Hunt Aviation, Inc.; Manitoba Corporation; Marmon Aviation; Mobile Telecommunication Technologies Corp.; and Trillium Photographics.

2. Not surprisingly, Little LEO proponents have persisted in their claims that there is a significant and growing demand for NVNG MSS which cannot be met with existing allocations and that, due to certain spectrum sharing techniques, Little LEOs can co-exist with incumbent services in the 455-456 MHz and 459-460 MHz bands.^{5/} As shown below, these claims are without merit and should be rejected by the Commission.

A. There Is no Demonstrated Need for Additional Little LEO Spectrum

3. The assertions of Little LEO interests regarding the anticipated future demand for NVNG MSS amount to nothing more than pure speculation. As UTC, The Telecommunications Association ("UTC"), pointed out in its Comments, Little LEO proponents have identified Automatic Meter Reading ("AMR") for utilities as accounting for well over 75% of the market demand forecast for NVNG MSS in North America.^{6/} For this forecast to be accurate, "NVNG MSS would have to capture a majority of the projected new AMR installations in the face of an ever increasing number of terrestrial AMR technologies ranging from telephone line to narrowband PCS."^{7/} API shares UTC's conviction that the Little LEOs' marketing forecast is "extremely over-optimistic," and it

^{5/} See Comments of Final Analysis Communication Services, Inc. ("Final Analysis"); LEO One USA Corporation ("LEO One"); and Orbital Communications Corporation ("ORBCOMM").

^{6/} Comments of UTC at 3.

^{7/} Id.

believes that the perceived demand for NVNG MSS will be met, in large part, by terrestrial services.

4. Little LEO interests also contend that compromises made by Little LEO licensees in the second processing round illustrate that there is a shortage of available spectrum for these services.^{8/} API agrees with LMCC, however, that the ability of the Commission in the second processing round to find sufficient spectrum within existing allocations to authorize three new service providers and to provide additional spectrum for two round one licensees demonstrates that the Little LEO industry has consolidated to a point that all existing needs can be met with current allocations.^{9/} Given that Little LEO licensees have yet to fully implement or exhaust the spectrum they are presently authorized to use and that there is no credible evidence that future demands cannot be met from these existing allocations, the allocation of additional spectrum at this time would be extremely premature.

^{8/} See Comments of ORBCOMM at 2-3; Comments of LEO One at n.3.

^{9/} Comments of LMCC at 5.

B. The Sharing Techniques Advocated by Little LEO Interests Have Not Been Shown to be Feasible in the 455-456 MHz and 450-460 MHz Bands

5. Little LEO proponents argue that the feasibility of sharing between Little LEOs and incumbent users already has been adequately studied and that Little LEOs will be able to avoid causing interference through the employment of various techniques, including the Dynamic Channel Activity Assignment System ("DCAAS"), low duty cycles and brief message duration.^{10/} These arguments are founded upon several incorrect assumptions and conclusions.

6. To begin with, the fact that the allocation at issue initially was approved at WRC-95 does not mean that it is technically sound. As API explained in its Comments, the WRC-95 allocation of the 459-460 MHz band to the Little LEO service was based upon the results of a suspect engineering survey of the domestic, U.S. users of this band. Additionally, the contention that sharing is feasible has not been supported by a consensus of Informal Working Group 2A ("IWG-2A"), the body charged by the Commission with studying MSS issues. Rather, the conclusions presented to IWG-2A by Little LEO interests have met with stiff and consistent technical opposition from the land mobile community.^{11/} Moreover, these previous studies addressed only the feasibility of

^{10/} See Comments of Final Analysis; LEO One; and ORBCOMM.

^{11/} See Exhibit A to API's Comments in this proceeding (LMCC paper entitled "Preliminary Study of Sharing Between Non-GSO MSS Below 1 GHz and Terrestrial
(continued...)

sharing in the 148-150.05 MHz band. The results of such studies cannot be extrapolated to the 455-456/459-460 MHz bands, which have significantly different operational characteristics and may be more congested than the VHF band.^{12/}

7. Further, Little LEO proponents underestimate the potential consequences of interference to land mobile operations. LEO One, for example, states that “[e]ven if interference did occur, it would take the form of a ‘click,’ and the [land mobile service] operator would probably not be able to distinguish it from automotive noise or self-interference.”^{13/} While such a “click” might in fact occur on analog radios, newer digital radios could lose synchronization, potentially resulting in an “outage” during a critical point in communications. This situation could become increasingly common in the foreseeable future, given that the Commission’s “refarming” initiative -- stemming from existing spectrum congestion in the land mobile bands below 800 MHz -- anticipates a transition from analog to digital technology. Additionally, filters and other techniques typically employed by land mobile users to eliminate disruptions such as static and

^{11/}(...continued)
Private Land Mobile Systems”).

^{12/} Questioning Motorola’s assertion that the 148 MHz band is less congested than the 455 and 459 MHz bands, Final Analysis states that “preliminary data” from an experimental satellite it launched in September 1997 “suggests that the 455 and 459 MHz bands are indeed much cleaner than the 148 MHz band.” Comments of Final Analysis at 10. It is quite possible, however, that Final Analysis’ monitoring method is flawed and that the very technique purported to facilitate spectrum sharing may have failed to indicate all channel activity.

^{13/} Comments of LEO One at 6.

automobile ignition noise would not eliminate in-band interference from Little LEO transmitters.

8. ABC, Inc. is precisely right that the Commission's apparent plan to proceed with this allocation prior to the completion of the additional studies necessary to determine whether spectrum sharing is feasible in the 455-456/459-460 MHz bands is "a classic example of 'putting the cart before the horse.'"^{14/} In light of the absence of any credible evidence that Little LEOs and incumbent services can co-exist on this spectrum, it would be inappropriate for the Commission to move forward with the allocation at this time.

C. The Oil Spill Response Channel Must be Protected

9. ORBCOMM suggests in its Comments that the concerns of the petroleum industry regarding potential interference to the oil spill response channel centered at 459.000 MHz are somehow mitigated by the fact that "there are a half-dozen other channels outside the 455-456 MHz and 459-460 MHz bands that are also dedicated to oil spill containment on a primary basis."^{15/} ORBCOMM fails to note, however, that the channel pair 454/459.000 MHz is the only UHF channel pair dedicated for these purposes. Accordingly, the relocation of an existing licensee at 459.000 MHz to any of

^{14/} Comments of ABC, Inc. at 5.

^{15/} Comments of ORBCOMM at 10.

these other channels would be an extremely costly endeavor, necessitating the licensing, purchase, construction and implementation of an entirely new radio system. In proposing this Little LEO allocation, the Commission certainly could not have intended to impose such a significant and unwarranted burden upon incumbent spectrum users.^{16/}

10. Noting that the channel at 459.000 MHz already is available for use on a secondary basis by other users in the Petroleum Radio Service^{17/} and that such secondary use must cease upon notification that the channel is needed for oil spill-related activities, ORBCOMM contends that Little LEO licensees automatically could avoid subscriber transmissions on this channel when oil spill communications are occurring, without even requiring a notification. This argument misses the mark. Petroleum licensees are able to operate on the 459.000 MHz channel on a secondary basis without disrupting emergency oil spill communications because such licensees are sensitive to the critical nature of oil spill situations and are likely to be made immediately aware of any spill that has occurred in the vicinity of their operations. By contrast, other secondary users of this channel,

^{16/} Such a result also would be inconsistent with the proposed footnote to the Commission's Table of Frequency Allocations which would prevent Little LEO licensees from constraining the development or use of the 455-456 MHz and 459-460 MHz bands by fixed or mobile service licensees.

^{17/} As a result of the service pool consolidation rules which went into effect on October 17, 1997 pursuant to the Commission's spectrum "refarming" proceeding, petroleum industry licensees now are part of the Industrial/Business Radio Pool, rather than the Petroleum Radio Service. However, the 459.000 MHz channel continues to be available on a primary basis for oil spill communications, and all uses of the channel must be coordinated by the Petroleum Frequency Coordinating Committee.

such as NVNG MSS, would not be as compatible with or sympathetic to the needs of the petroleum industry. Moreover, even if Little LEO licensees could avoid selecting the oil spill channel when it is already in use, what if the channel were to become needed for oil spill communications after the Little LEO transmissions already have been initiated?

11. ORBCOMM acknowledges that, "if the Commission were to decide that this particular channel should not be subject to use by the Little LEO systems, the satellite systems should readily be programmable to always avoid assignment of Little LEO subscriber transmissions on that channel."^{18/} Thus, if the Commission intends to move forward with this allocation notwithstanding the lack of reliable evidence that additional Little LEO spectrum is needed or that band-sharing is feasible, it should at least adopt the proposal of API and Clean Sound that it exclude from the allocation the 459.000 MHz channel and the 25 kHz channel that is adjacent to it.

II. CONCLUSION

12. Contrary to the assertions of Little LEO proponents, the need for additional Little LEO spectrum has not been sufficiently established, nor has it been demonstrated that NVNG MSS can co-exist with incumbent services in the 455-456/459-460 MHz bands, including critical oil spill response operations on the 25 kHz channel centered at 459.000 MHz. Under these circumstances, it would be

^{18/} Comments of ORBCOMM at 11.


extremely ill-advised for the Commission to proceed with the proposed Little LEO allocation at this time.

WHEREFORE, THE PREMISES CONSIDERED, the American Petroleum Institute respectfully urges the Federal Communications Commission to act in a manner fully consistent with the views expressed herein.

Respectfully submitted,

THE AMERICAN PETROLEUM INSTITUTE

By:


Wayne V. Black
Nicole B. Donath
KELLER AND HECKMAN LLP
1001 G Street, NW
Suite 500 West
Washington, DC 20001
(202) 434-4130

Its Attorneys

Dated: December 22, 1997